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Advanced Ranking in Excel

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By [Neil J. Rubenking](#)

I have columns of students, band instruments, and tryout scores. I want to rank them automatically with some sort of formula. I know I could get the highest and lowest using Max and Min, but I need to have them ranked 1, 2, 3, and so on, from the highest score down. I also need the ranking for each instrument separately. The solution should also give the same number to any ties (there aren't supposed to be any ties, but I want to be prepared).

Bob C.

This seemingly knotty problem can be solved with a single formula. We'll assume the student names, instruments, and scores are in columns A, B, and C respectively, with column headers in row 1 and data starting in row 2. Select the range containing the instruments, choose Insert | Name | Define from the menu, and name that range Inst. Select the scores and name the range Score.

Click in cell D2 and type this formula: =B2&" "&SUM(IF(B2=Inst,IF(C2 <=Score,1,0),0)). After typing the formula, press Ctrl+Shift+Enter to identify it as an array formula. If you accidentally press Enter alone, Excel will complain—just press F2 to edit the formula, and then carefully press Ctrl+Shift+Enter. Excel will surround the formula with curly brackets ({}) to flag its status as an array formula. Copy this formula down column D to the last row containing data. You'll see that column D now contains an instrument and ranking for each student, like "Flute 2" or "Clarinet 1." In the figure, you can see that the third and fourth students are both clarinet players with a score of 71, and both are assigned the rank Clarinet 5.

How does it work? The initial portion up to the second ampersand (&) simply prefixes the instrument name and a space to the calculated rank. It's the remainder of the formula that calculates the rank. The outer IF statement compares the single cell B2 with the entire range named Inst—in an array formula, Excel repeats the calculation for every member of that range.

If the instrument does not match the value in B2, the IF statement returns 0. If it does match, it checks whether the score in C2 is less than or equal to the corresponding element in the range called Score. If C2 is less than or equal to a given value, the inner IF returns 1; otherwise it returns 0. And the SUM function surrounding it all sums up the results. When you copy the formula down the column, the relative references B2 and C2 change to match the current row, but the named ranges Inst and Score don't change.

Let's look at a specific example. In the figure, the four flute players have scores of 95, 87, 77, and 75, respectively. The score of each will be compared only to those four scores. 95 is less than or equal only to itself in this list, so that player is ranked 1. 87 is less than or equal to two scores, itself and 95, so that player is ranked 2. Each player's rank is the number of players with an equal or better score.

This precise example will be of use only to a school band director, but the principles involved can be applied to many problems in Excel.

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